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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/039,277	01/04/2002	Frank D. Husson JR.	SOLAR1120-3	1245

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EXAMINER
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PRICE, CARL D

ART UNIT	PAPER NUMBER
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3749

DATE MAILED: 09/16/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/039,277	<b>Applicant(s)</b> HUSSON, FRANK D.	
	<b>Examiner</b> CARL D. PRICE	<b>Art Unit</b> 3749	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 2/9/04 & 6/2/04.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,3,6,7,9,10,12-15,17-22,26,37-39,43,44 and 47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,3,6,7,9,10,12-15,17-22,26,37-39,43,44 and 47 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \*    c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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**DETAILED ACTION****Response to Arguments**

Applicant's arguments with respect to claims 1, 3, 6, 7, 9, 10, 12-15, 17-22, 26, 37-39, 43, 44 and 47 have been considered but are moot in view of the new ground(s) of rejection.

In the amendment filed on 02-19-2004 (Note: missing pages 1 and 2 of the amendment being submitted on 06/02/2004 in a separate letter) applicant has amended the scope of the claimed invention to be different than that previously considered.

Applicant's argues that Ryder is non-analogous to the present invention since "Ryder does not relate to pasteurization systems". In this regard applicant's attention is directed to the following definitions and word analysis of the terms "sterilize" and "pasteurization":

**Main Entry:** pas·teur·iza·tion

**Variant:** *also British* pas·teur·isa·tion / "pas-ch&-r&- 'zA-sh&n, "pas-t&- /

**Function:** *noun*

**1 :** partial sterilization of a substance and especially a liquid (as milk) at a temperature and for a period of exposure that destroys objectionable organisms without major chemical alteration of the substance  
**2 :** partial sterilization of perishable food products (as fruit or fish) with radiation (as gamma rays)

Source: Merriam-Webster Medical Dictionary, © 2002 Merriam-Webster, Inc.

**Entry:** Sterilize

**Function:** Verb

**Definition:** make clean

**Synonyms:** alter, antisepticize, aseptify, aseptize, autoclave, castrate, change, clean, decontaminate, desexualize, disinfect, emasculate, fix, fumigate, incapacitate, make sterile, neuter, pasteurize, purify, sanitize, spay

Source: Roget's New Millennium™ Thesaurus, First Edition (v 1.0.5)

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Based on the information presented herein above the examiner's position regarding the prior art teaching of Ryder is unchanged. While the temperature indicator of Ryder is characterized in the context of a "sterilization" system a person having ordinary skill in the art would have recognized the relationship, and relevance, of such a device to "pasteurization" apparatus. As can be seen from the information presented herein above, a person having ordinary skill in the art would understand sterilization as synonymous with pasteurization. And, a person having ordinary skill in the art would clearly understand the close relationship between pasteurization and sterilization since pasteurization is known as "partial sterilization of a substance". Applicant is reminded that the test for obviousness is not whether the features of a secondary reference may be bodily incorporated into the structure of the primary reference; nor is it that the claimed invention must be expressly suggested in any one or all of the references. Rather, the test is what the combined teachings of the references would have suggested to those of ordinary skill in the art. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981). The examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). The examiner also recognizes that it has been held that a prior art reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the applicant was concerned, in order to be relied upon as a basis for rejection of the claimed invention. See *In re Oetiker*, 977 F.2d 1443, 24 USPQ2d 1443 (Fed. Cir. 1992). In this case, given the level of ordinary skill in the art as that of

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a person recognizing the relationship between pasteurization and sterilization, as noted herein above, when attempting to solve the problem of monitoring temperature conditions within a water vessel to make clean, or to destroy objectionable organisms would be motivated look to analogous and indeed highly relevant teachings such as that presented by Ryder.

Applicant's argument that Ryder is non-analogous since it "relies on external heating device" is noted, but not found persuasive. The heat applied externally to the container in Ryder is not unlike, and indeed analogous to, the solar water pasteurizer of applicant's claimed invention which is heated externally from solar energy radiation.

The examiner disagrees with applicant's assertion that the examiner has relied on Official notice without providing documentary evidence to support the examiner's conclusions.

Applicant need only look to the prior art references previously discussed and relied on by the examiner, and the prior art previously cited as art of particular interest, during the prosecution of the present application to find support for the conclusion arrived at by the examiner. The examiner disagrees with applicant's apparent suggestion that it is necessary for the examiner provide documentary support for concepts, such as:

- 1) forming solar energy collection/heat exchange surfaces from rigid material and pleated (i.e. - corrugated material), for the purpose of extending the heated surface area of the collector member;

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- 2) providing solar energy collectors with addition solar energy reflector/concentrator (i.e. – a concentrating reflector) means to further increase the amount of solar energy radiation directed onto and absorber by the collector unit;
- 3) passing water through biological carbon filters (e.g. – carbon filters commonly applied to domestic water taps, portable camping water filters, etc.);
- 4) that glass is well known for its non-reactive characteristic when used at high temperatures and when used to contain a variety of chemical species (e.g. – glass is notoriously well known in laboratory applications, mercury thermometers, etc.).

Applicant has amended the claim to include the limitation that “said temperature indicator is a glass tube containing wax therein that melts at pasteurization temperatures”. The prior art reference of US4187799 (Zwaron) and US2847067 (Brewer) are now relied on to address these limitations of applicant’s claimed invention.

**Drawings: Objected to under 37 CFR 1.83(a)**

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “bracket” and “or more indicators” (claim 1) and must be shown or the feature(s) canceled from the claim(s). **No new matter should be entered.**

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

**Claim Rejections - 35 USC § 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1, 3, 6, 7, 9, 10, 12-15, 17-22, 26, 37-39, 43, 44 and 47:**

**Rejected 35 U.S.C. 103(a)**

Claims 1, 3, 6, 7, 9, 10, 12-15, 17-22, 26, 37-39, 43, 44 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luboschik et al (DE 28 51 793) in view of Ryder (U.S. Patent No. 3939968) with US4187799 (Zwaron) and US2847067 (Brewer), Burkhardt (U.S. Patent No. 4557251), Hall (U.S. Patent No. 4520793) and Kircus .

Luboschik et al discloses the invention substantially as set forth in the claims with possible exception to 1) to integrally forming insulating layers as well as energy converting layers in a unitary integral heat sealed fashion to form a solar energy collecting unit and 2) the water heater being capable of maintaining water temperatures of at least 60<sup>0</sup> C, water temperature sensor and the lower insulating support member (16) is made reflective to redirect solar radiation and radiant heat energy back on the collector/absorber, 3) securing a reusable transparent sterilization/ pasteurizer temperature history indicator, via a bracket, to a removable

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container sealing cap wherein the temperature history determined by visual inspection of a eutectic mixture located within a transparent container, 4) the use foam insulation, 5) and a rear wall mounted filling cap and spout.

Luboschik et al shows and discloses a solar heating mat for heating water present in a solar energy converting/absorbing container (1). The re-sealable water heater container/absorber (1) is made from flexible black polymer material (e.g. - PVC) and has includes transparent air filled/inflatable upper and lower insulation structures (9, 11) having re-sealable filling valves (10). Luboschik et al also includes a re-sealable container filler opening (2a), a flexible valved (3a) spout/sprayer (3,3a) and a support (5, 6) for holding the heating mat to permit gravity flow of water therefrom. Luboschik et al further includes a reusable thermometer (7) for indicating the temperature of water in the solar heater.

Ryder (U.S. Patent No. 3939968) teaches, form the same container heating field of endeavor as Luboschik et al, that it is known to secure a reusable transparent sterilization/pasteurizer indicator (37,40), via a bracket (14), to a removable container sealing cap (11). The temperature history being determined by visual inspection of a eutectic mixture located within a transparent container.

US4187799 (Zwaron) teaches, form the same container heating field of endeavor as Luboschik et al, that it is known to use wax as a temperature responsive material held in a repositionable/re-usable glass vial sanitizing temperature indicator (see column 3, line 44-column 4, line 2).



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US2847067 (Brewer) teaches, form the same container heating field of endeavor as Luboschik et al, that it is known to use molten pellet as a temperature responsive material held in a repositionable/re-usable glass vial sterilization temperature indicator. US2847067 (Brewer) also teaches using the disclosed temperature indicator as a means to measure and to insure an adequate period of time for achieving sterilization.

Hall (U.S. Patent No. – 4520793) teaches, form the same portable flexible solar energy water heating field of endeavor as Luboschik et al, forming portable flexible polymeric bonded layered solar collector water heater by bonding a first clear flexible side wall to a second flexible sidewall, including a spout and cap (34,36) on the bottom insulated layer, and made of three layers (e.g.- an inner dark, outer reflective and middle flexible insulating layer) and wherein the device is “quickly heated to temperatures in excess of 100° F”., when placed in the sun.

Burkhardt teaches, form the same portable flexible solar energy water heating field of endeavor as Luboschik et al, that it is well known to make use of energy collected from solar radiation to, in portable devices, raise the temperature of water sufficient to bring about pasteurization/sterilization of the water for **“the purpose of sterilizing water where a supply of pure water is not available.”**. Burkhardt furthermore discloses a useful relationship between water depth (about 4 cm), water temperature (boiling point), rate of heating of the water, available solar radiation (an average summer’s day) and time (about 8 hours) necessary to achieve the stated purpose. Burkhardt therefore clearly teaches the person having ordinary skill in the art that a suitable time necessary to bring about sterilization/pasteurization of water in a

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portable solar water processing method or apparatus is dependant on numerous design concerns such as those listed herein above. In addition, Burkhardt clearly teaches the person having ordinary skill in the art techniques necessary for permitting solar radiation to be directed into the water body, and for reducing heat loss from the body of water. Burkhardt includes, for example, a sealed air space between the transparent cover (21) and an upper wall (28) of the water container, applying a layer of foam insulation about the side and rear portions of water body to reduce heat loss, selecting materials having properties suitable for the high temperature operation of the apparatus, forming the water container of a light-transparent material while coating the upper/inner surface of the insulated backing layer with a black light-absorptive coating, etc. The overall arrangement of elements of the solar water heater/sterilizer of Burkhardt being not unlike that claimed by applicant. The container of Burkhardt is both flexible and expansive in that "In use, under pressure of boiling water within the flask 13, the back wall 29 bulges downwardly into contact with the adjacent surface 50 of the insulation material 19 ...". See portions of Burkhardt reproduced herein below.

Kircus teaches, from the same solar energy water heater field of endeavor as by Luboschik et al, that it is known to integrally form (see column 4, lines 54-66) insulating layers (18,22) as well as energy converting layers (12,14) in a unitary integral heat sealed fashion to form a solar energy collecting unit.

In regard to claims 1, 3, 6, 7, 9, 10, 12-15, 17-22, 26, 37-39, 43, 44 and 47, for the purpose of generating potable sterilized/pasteurized water in an location where a supply of pure

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water is not available, it would have been obvious to a person having ordinary skill in the art to modify, by providing suitable foam insulation, and operate the apparatus of Luboschik for a period of time sufficient to achieve water temperatures of at least 60 degrees C, in a method of water pasteurization, in view of the teaching of Burkhardt. Also, in regard to claims 1 and 43, in particular, for the purpose of providing means to visually inspect and monitor the temperature history of a water heating cycle during operation of the heater to pasteurize water, or a method of pasteurizing water, it would have been obvious to a person having ordinary skill in the art to substitute, for the cap (2a) of Luboschik, a cap including bracket mounted reusable transparent sterilization/ pasteurizer indicator (a WAPI), in view of the teaching of Ryder. In addition, in view of the teachings of r3 and r4, it would have been obvious to a person having ordinary skill in the art to use wax as the in temperature responsive material held in a glass vial, and to use the temperature indicator as a means to measure and to insure an adequate period of time for achieving sterilization/pasteurization of the water in Luboschik, in view of the teachings of US4187799 (Zwaron) and US2847067 (Brewer). And, in regard to claims 1, 6, 7, 10, 12, 13, 22 and 43, for the purpose of providing a suitable alternate wall structure, method of manufacture therefore, and for reducing heat loss, it would have been obvious to a person having ordinary skill in the art to form the bottom wall of the Luboschik water heater from three layers (e.g.- an inner dark, outer reflective and middle flexible foam insulating layer) wherein the re-sealable spout opening is located there through, in view of the teachings of Hall '793. In addition in regard to claims 1, 6, 7, 10, 12, 13 and 43, for the purpose of providing a suitable means for manufacturing the unitary collector of Luboschik, it would have been obvious to a person having ordinary skill in the art to form the insulating layers as well as energy converting layers of

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polymeric material in a unitary integral heat sealed fashion, in view of the teachings of both Hall and Kircus. And, Official Notice is also taken that glass is well known for its non-reactive characteristic when used at high temperatures and when used to contain a variety of chemical species (e.g. - glass is notoriously well known in laboratory applications, mercury thermometers, etc.). Therefore, in view of that which is well known, for the purpose of providing a non-reactive chemical resistant material, it would have been obvious to a person having ordinary skill in the art to use glass to contain a temperature indicator.

**Claims 10, 14, 15 and 44: rejected under 35 U.S.C. 103(a)**

Claims 10, 14, 15 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Luboschik et al (DE 28 51 793) in view of Ryder, US4187799 (Zwaron), US2847067 (Brewer), Hall and Kircus, as applied to claims 1 and 43 above, and further in view of Stoumen (U.S. Patent No.- 6263870).

Luboschik et al discloses the invention substantially as set forth in the claims with possible exception to the collector/absorber member being pleated and perforated to permit the flow of water from one side to the other side.

Stouman et al teaches, from the same solar energy water heater field of endeavor as by Luboschik et al, the use of a pleated woven polymer energy collecting surface (18) in a portable flexible wall water solar heater. The porous woven polymer material permits the flow of water

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from a first to a second side of the of the collecting surface while the pleated shape increases the surface area thereof and thereby increasing the rate of solar heat absorption.

In regard to claims 14, 15 and 43, for the purpose of permitting the circulation of water through the surface of the Luboschik et al collector and to increase the amount of solar energy collected, it would have been obvious to a person having ordinary skill in the art to modify the collector to be pleated and perforated, in view of the teaching of either Stoumen.

**Conclusion**

See the attached **PTO FORM 892** for prior art made of record and not relied upon which is considered pertinent to applicant's disclosure.

**THIS ACTION IS MADE FINAL**

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

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however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

***USPTO CONTACT INFORMATION***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to CARL D. PRICE whose telephone number is 703-308-1953. The examiner can normally be reached on Monday through Friday between 6:30 am-3:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennett can be reached on 703-308-0101. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9302 for regular communications and 703-872-9303 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1148/0858.

A handwritten signature in black ink, appearing to read 'Carl D. Price', with a stylized flourish at the end.

CARL D. PRICE  
Primary Examiner  
Art Unit 3743

cp  
September 7, 2004